

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (currently amended) An optical test system for testing a device under test comprising:
a fixture adapted to be attached with a device under test;
an optical fiber held within said fixture and optically connected at its proximal end to a light source providing light, wherein said optical fiber is held by said fixture in optical alignment with said device under test;
a focusing element optically coupled to said fiber, whereby said focusing element is configured to focus said light onto a photosensitive target on said device under test to cause latching of data into said device under test; ~~and~~
means for retrieving the latched data from said device under test; and
an output device for reporting the retrieved latch data in a format that enables analysis of the device under test to determine the functionality of the device under test.
2. (previously presented) The optical test system of claim 1 wherein said fixture acts as a heat sink for said device under test.
3. (original) The optical test system of claim 1 wherein said light source is a laser.
4. (previously presented) The optical test system of claim 1 wherein said focusing element is a computer-generated holographic optical element (CG-HOE).
5. (previously presented) The optical test system of claim 1 wherein said focusing element is a zone-plate.
6. (previously presented) The optical test system of claim 1 wherein said focusing element is a lens.
7. (previously presented) The optical test system of claim 1 further comprising one or more lenses located in combination with said focusing element to focus said light onto a photosensitive target on said device under test.
8. (currently amended) A method of testing a device under test having an operating integrated circuit comprising the acts of:

obtaining a fixture defining a hole;
inserting an optical fiber into the hole defined in said fixture;
applying light from a light source to a proximal end of said fiber;
focusing said light as it exits a distal end of said fiber onto a photosensitive element of
said integrated circuit thereby to cause latching of data into said integrated circuit; ~~and~~
~~reading~~ relaying the latched data from said integrated circuit to an output device; and
analyzing the relayed data to determine the functioning of the device under test.

9. (original) The method of claim 8 further comprising the act of capturing light at a
proximal end of said fiber reflected by said element.

10. (original) The method of claim 8 where said fixture performs the function of a heat
sink for said device under test.

11. (previously presented) A method of testing a device under test having an operating
integrated circuit on a fixture comprising the acts of:

inserting an optical fiber into a hole defined in said fixture;
applying light from a light source to a proximal end of said fiber;
focusing said light as it exits a distal end of said fiber onto a photosensitive element of
said integrated circuit thereby to cause latching of data into said integrated circuit;
capturing light at a proximal end of said fiber reflected by said element; and
analyzing said reflected light for proper focusing of said light onto said element.

12. (previously presented) A method of testing a device under test having an operating
integrated circuit on a fixture comprising the acts of:

inserting an optical fiber into a hole defined in said fixture;
applying light from a light source to a proximal end of said fiber;
focusing said light as it exits a distal end of said fiber onto a photosensitive element of
said integrated circuit thereby to cause latching of data into said integrated circuit;
capturing light at a proximal end of said fiber reflected by said element; and
analyzing said reflected light to determine whether said light is correctly coupled into
said fiber.

Claims 13-21 (canceled)